



STOMATOPOD CRUSTACEANS FROM MAYOTTE ISLAND
(CRUSTACEA, HOPLOCARIDA)

*Joseph Poupin, Regis Cleva, Jean-Marie Bouchard,
Vincent Dinhut, and Jacques Dumas*

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STOMATOPOD CRUSTACEANS FROM MAYOTTE ISLAND (CRUSTACEA, HOPLOCARIDA)

JOSEPH POUPIN¹, REGIS CLEVA², JEAN-MARIE BOUCHARD³,
VINCENT DINHUT⁴ and JACQUES DUMAS⁵

ABSTRACT

A collection of stomatopods assembled during the KUW 2009 expedition to Mayotte Island and deposited in the Muséum national d'Histoire naturelle Paris is studied with a review of previous records from Comoros and Mayotte Island. In total 14 species are recognized 3 of them being new records for this region. A brief comparison with other regions studied for stomatopods indicates that sampling is still insufficient in Comoros and Mayotte and that dozens of species remain to be inventoried in that region.

RÉSUMÉ

Une collection de stomatopodes réalisée pendant la mission KUW de 2009 sur l'île de Mayotte et déposée au Muséum national d'Histoire naturelle de Paris est étudiée, avec une revue des signalements précédents aux Comores et Mayotte. Au total 14 espèces sont reconnues, 3 d'entre elles étant de nouveaux signalements pour cette région. Une comparaison succincte avec d'autres régions étudiées pour les stomatopodes montre que les récoltes sont encore limitées aux Comores et Mayotte et que des dizaines d'espèces restent encore à inventorier dans cette région.

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INTRODUCTION

This report is the fourth of a series published in *Atoll Research Bulletin* (ARB) to study the Crustacea (Decapoda) collected during the Kraken Underwater Works C^{ie} (KUW) expedition to Mayotte Island, southwestern Indian Ocean, November 1–21, 2009. This fieldwork was organized by J. -M. Bouchard, head of the KUW C^{ie} in Mayotte, with participation of the École Navale, Brest, and the Muséum national d'Histoire naturelle (MNHN), Paris, and was targeting primarily the Crustacea (Decapoda and Stomatopoda) of the Island. Financial support was provided by the DAF (Direction de l'Agriculture et de la Forêt) of Mayotte and *The Total Foundation*.

Previous ARB contributions include the studies of: land, mangrove and freshwater Decapoda (Bouchard *et al.*, 2013); Anomura (Poupin *et al.*, 2013); and crabs (Poupin *et al.*, 2018). More details, including map of the Island and stations prospected can be found in these contributions.

The present study focuses on the Stomatopoda collected during Mayotte KUW 2009.

METHODS

The coordinates together with a short description of the stations prospected during Mayotte KUW 2009 can be consulted in Bouchard *et al.* (2013). The description of marine biotopes visited and sampling techniques used in the intertidal and at sea are provided by Poupin *et al.* (2013, 2018). Stomatopods were collected in the intertidal zone by using dip nets or during scuba dives in the lagoon between 1–35m with brushing of corals and blocks and by using a sediment suction pump. Out of 39 stations prospected stomatopods were captured only in the 11 stations listed herein.

- St. 14: 09/11/2009; 10–12h; La Prudente bank; 12°38'50.68"S; 44°58'41.93"E; 15–17 m; J. -M. Bouchard, V. Dinhut, J. Dumas; scuba dive, sediment suction pump; sand and coral boulders.
- St. 17: 10/11/2009; 11–14h; North reef; 12°34'49.93"S; 45°05'52.62"E; 22 m; J. -M. Bouchard, V. Dinhut, J. Dumas; scuba dive, sediment suction pump; outer reef, sand and coral boulders.
- St. 22: 12–13/11/2009; 0–24H; islet Choizil, west, Malandzamiyajou; 12°40'14.34"S; 45°02'42.66"E; 30–35 m; J. -M. Bouchard, J. Dumas, V. Dinhut; scuba dives and traps; 300 m far from Choizil Islet, sand and coral boulders.
- St. 23: 13/11/2009; 11–13h; Choizil pass '*Patate à Teddy*'; 12°40'56.91"S; 44°57'51.63"E; 15–30 m; J. -M. Bouchard, V. Dinhut, J. Dumas; scuba dive; collapsed edge reef.
- St. 25: 14/11/2009; 10–11h30; islet M'tzamboro, southern tip; 12°39'30.18"S; 45° 1'38.65"E; 15–20 m; J. -M. Bouchard, V. Dinhut, J. Dumas; scuba dive; coral slope with boulders.
- St. 26: 16/11/2009; 10–11h30; Mutsumbatsou reef flat; 12°45'15.60"S; 45°02'49.86"E; intertidal; J. -M. Bouchard, R. Cleva, J. Dumas, V. Dinhut, J. Poupin; littoral investigation; low tide, reef flat and seagrass beds (this station also prospected previously, 03/08/2008 by J. -M. Bouchard and 01/07/2009 by V. Dinhut).
- St. 28: 17/11/09; 14h–15h30; islet Mbouini, east; 13° 0'27.42"S; 45° 8'16.96"E; 3–20 m; J. -M. Bouchard, V. Dinhut, J. Dumas; scuba dive, high tide, fringing reef and slope.
- St. 29: 18/11/2009; 11–12h30; Ngouja hotel, Mboianatsa beach; 12°57'42.60"S; 45°05'1.30"E; intertidal; J. -M. Bouchard, J. Dumas; littoral investigation; low tide, beach and rocky shores.
- St. 31: 19/11/2009; 11–13h; Brandélé '*Plage musicale*'; 12°55'1.60"S; 45°11'12.43"E; intertidal; J. Poupin, R. Cleva; littoral investigation; low tide.
- St. 33: 19/11/2009; 14h30–16h30; seaside of Longoni pass; 12°36'50.76"S; 45°08'58.25"E; 25 m; J. -M. Bouchard, V. Dinhut, J. Dumas; scuba dive; outer reef, gentle slope.

St. 35: 20/11/2009; 10–12h; Surprise reef, Longoni pass; 12°38'29.95"S; 45°07'45.99"E; 4–25 m; J. -M. Bouchard, V. Dinhut, J. Dumas; scuba dive; outer reef slope.

Two large stomatopod species, not collected during Mayotte KUW 2009, have been also included in the present list because they were recognized confidently on under water photographs examined during this work. Older collections of stomatopods from Mayotte (Manning, 1968; Ahyong, 1998; Ahyong *et al.*, 2000) were mostly made by L. S. Kornicker between 1958–1971 (including *Anton Bruun* Cruise 9, IIOE, 24 November 1964) and A. Crosnier between 1959–196, with specimens deposited in USNM and/or MNHN. Fourmanoir (1955) had also reported two species from the Comoros Islands.

The length of specimens examined is the total length (TL in mm) measured from the apex of the rostral plate to the apices of the submedian teeth of the telson. Other abbreviations used are: **AS**, abdominal somite; **ARB**, *Atoll Research Bulletin*; **BIORECIE**, French research program 2011–2013 ‘*Biodiversité, ressources et conservation des récifs coralliens dans le SO Océan Indien, Iles Eparses*’; **det.**, determined by; **IO**, Indian Ocean; **IP**, Indo-Pacific; **IWP**, Indo-West Pacific; **juv.**, juvenile; **KUW**, Kraken Underwater Works C^{ie}; **MNHN**, Muséum national d’Histoire naturelle, Paris; **pers. comm.**, personal communication; **s.l.**, *sensu lato*; **sp./spp.**, specimen/s; **St.**, Station; **TS**, thoracic somite; **USNM**, United States National Museum; **WA**, Western Atlantic; **WIO**, Western Indian Ocean.

The taxonomy of the list follows Ahyong (2001). The determinations were made at the École navale by the senior author using keys and illustrations in Manning (1995) and Ahyong (2001). No comparative specimens were examined. All specimens are deposited in the MNHN collection (numbers MNHN-IU-2013-7244 to 7259). The geographic distribution of the species is from Müller (1994) updated in Manning (1995) and Ahyong (2001).

LIST OF STOMATOPODS FROM MAYOTTE

Order Stomatopoda Latreille, 1817

Superfamily Gonodactyloidea Giesbrecht, 1910

Family Gonodactylidae Giesbrecht, 1910

Gonodactylaceus falcatus (Forskål, 1775) (Figure 1A)

Gonodactylus falcatus – Manning, 1968: 46, Mayotte (coll. L. S. Kornicker, St. LK-39, *Anton Bruun* Cruise 9, 24 November 1964, reef, 1 female TL 21.1 mm, USNM).

DISTRIBUTION – Widely distributed in the IWP. Red Sea, Tanzania, Mayotte, South Africa to Japan, Hawaii, French Polynesia. Usually intertidal, to 50 m in Manning (1968).

REMARK – This species was recently reported in the region, 550 km southwest of Mayotte at Juan de Nova Island (Poupin, 2016: 49, 1 male, TL 39.2 mm, MNHN-IU-2013-16069). The color pattern of Juan de Nova specimen is illustrated together with *G. ternatensis* on Figure 1. Ahyong (2001) indicates that color in life is highly polymorphic in *G. falcatus* and that it ‘*can change dramatically between moults and differs according to habitat*’.

Gonodactylaceus ternatensis (de Man, 1902) (Figure 1B)

MATERIAL EXAMINED – Mission KUW November 2009. St. 25, 1 ?male juvenile TL 15.0 mm, MNHN-IU-2013-7248.

DISTRIBUTION – Mayotte (first record), Cocos-Keeling Islands, eastern Australia, Andaman Sea, Thailand, Vietnam, Indonesia, southern China to Samoa. Mayotte is a noticeable range extension to WIO, to be confirmed by collections of additional specimens (see Remark).

REMARK –Fresh coloration of this small specimen matches well with the color plate of *G. ternatensis* in Manning (1995, pl. 1) including the red posterior margins of the thoracic and abdominal somites, the bright blue A2 scale, and the bright blue distal segment of uropodal exopod. The specimen examined differs, however, from typical *G. ternatensis* by shape of rostral plate with convex anterior margin (straight or faintly concave in *G. ternatensis* typical) and telson knob faintly bilobed (not typically bilobed in *G. ternatensis*). It is relatively small (TL 15.0 mm), to be compared with sizes to 75–87 mm indicated in Ahyong (2001), which can account for these slight morphological variations. Ahyong (2001) has also noticed that the shape of the knob of telson show variation being usually undivided but sometimes ‘*indented dorsally, giving a bilobed appearance*’. The specimen was first considered as a juvenile female because no penes can be seen. Its coloration is, however, that of the male as illustrated in Manning (1995, pl. 1) with bright blue on A2 scale and distal segment of uropodal exopod (in females these parts are yellow; Manning, 1995, pl. 2). It is thus probable that it is a male juvenile with penes so short (bud-like) that they cannot be seen.



Figure 1. Color pattern of two sibling species. A) *Gonodactylus falcatus*, Juan de Nova, 1 male, TL 39.2 mm, MNHN-IU-2013-16069. B) *Gonodactylaceus ternatensis*, Mayotte, 1 ?male juvenile TL 15.0 mm, MNHN-IU-2013-7248.

***Gonodactylellus affinis* (De Man, 1902)** (Figure 2A)

Gonodactylus segregatus – Manning, 1968: 51, fig. 16 Mayotte (intertidal, coll. A. Crosnier, September 1959, 1 female TL 22.9 mm, USNM). – *Gonodactylus chiragra* var. *segregatus* Lanchester, 1903 currently accepted as *Gonodactylellus affinis*.

MATERIAL EXAMINED – Mission KUW November 2009. St. 14, 1 male TL 21.5 mm, 1 female TL 14.9 mm, MNHN-IU-2013-7258. St. 17, 3 males TL 12–18.5 mm, MNHN-IU-2013-7249, 1 male TL 13.5 mm, 1 female TL 15.5 mm, MNHN-IU-2013-7253. St. 22, 2 males TL 15.6, 19.5 mm, 3 females TL 11.0–19.5 mm, MNHN-IU-2013-7254. St. 23, 2 males TL 10.7, 14.4 mm, 2 females TL 15.6, 19.5 mm, MNHN-IU-2013-7257. St. 25, 1 male TL 19.5 mm, 2 females 14.4, 15.3 mm, MNHN-IU-2013-7252. St. 33, 1 male TL 17.3 mm, 1 female TL 18.2 mm, MNHN-IU-2013-7256. St. 35, 1 male TL 21 mm, MNHN-IU-2013-7255.

DISTRIBUTION – Red Sea, Seychelles and Mayotte (first record) to Vietnam, Indonesia, Australia, Philippines, French Polynesia. Reef flat, to 60–80 m (in Ah Yong, 2001).

REMARK – This is the commonest species collected during KUW 2009. It is a small species with TL reported between 17–38 mm (Manning, 1995; Ah Yong, 2001). In largest male examined herein (TL 18.5 mm) the aspect of the telson is as indicated in Manning (1995: 60): ‘*median and accessory median carinae are confluent posteriorly and appear as a single inflated median boss armed with three posterior spinules*’. The aspect of the telson is, however, variable in *G. affinis*, as illustrated by Moosa and Cleva (1984, fig. 2) and Manning (1995, fig. 20). In fresh specimen the cornea is white, the body is pale red with white patches as illustrated in Figure 2A, white patches at basis of uropod and white posterior margin of somite 6 forming an continuous transverse white line. A similar color pattern is illustrated in Gosliner *et al.* (1996: 195) but these authors indicate that this species is ‘*highly polymorphic in color ... individuals below 20 m often pink or red*’.

***Gonodactylellus crosnieri* (Manning, 1968)**

Gonodactylus crosnieri Manning, 1968: 48, fig. 15, Mayotte (Lagoon, 50 m, coll. A. Crosnier August 1959, paratypes 1 female TL 19.3 mm, USNM 124099, 1 female TL 13.5 mm, MNHN; also Madagascar Banc de Prancel, 50 m, muddy sand, coll. A. Crosnier June 1959, holotype 1 female TL 17.8 mm, USNM 124098).

DISTRIBUTION – Still known only from type material from Madagascar and Mayotte at 50 m.

***Gonodactylellus lanchesteri* (Manning, 1967)**

Gonodactylus lanchesteri Manning, 1967: 11 Mayotte, (‘Mouniameri’ = Monye Amiri - Islet between Mayotte and Pamanzi Islands, rocky lava and coral reef 0–4 m, coll. Taylor *et al.* November 23 1964, USNM 120292, 1 male, TL 21.9 mm) – Manning, 1968: 51, Mayotte, (Intertidal, coll. A. Crosnier, September 1959, 1 male TL 25.6 mm, USNM).

DISTRIBUTION – WIO, Persian Gulf, Red Sea, Somalia, Kenya, Mozambique, South Africa, Mayotte, Madagascar, Pakistan. Also Vietnam (Manning, 1995). Intertidal to 60 m (in Müller, 1994).



Figure 2. Color pattern of four stomatopods from Mayotte. A) *Gonodactylellus affinis*, 1 male TL 18.5 mm, MNHN-IU-2013-7249. B) *Gonodactylus chiragra*, 1 male TL 76.1 mm, MNHN-IU-2013-7244. C) *Gonodactylus smithii*, 1 male TL 46.9 mm, MNHN-IU-2013-7246. D) *Chorisquilla spinosissima*, 1 male, TL 15.7 mm, MNHN-IU-2013-7251.

***Gonodactylus chiragra* (Fabricius, 1781)** (Figure 2B)

Gonodactylus chiragra – Fourmanoir, 1955: 33 (Comoros, ‘commune dans les herbiers et coraux’). – Manning, 1968: 43, Mayotte (Reef, coll. L.S. Kornicker, sta LK-39, Anton Bruun Cruise 9, 24 November 1964, 1 male broken, TL 13.9 mm, USNM).

MATERIAL EXAMINED – Mission KUW November 2009. St. 26, 2 males TL 67.7, 76.1 mm, MNHN-IU-2013-7244. St. 26, coll. J.-M. Bouchard 2008, 1 male TL 78.5 mm, MNHN-IU-2013-7245. St. 29, 1 female TL 46.4 mm, MNHN-IU-2013-7247.

DISTRIBUTION – Widely distributed in the IWP but exact range uncertain because ‘*virtually all members of Gonodactylus has been confused with G. chiragra at one time or another*’ (Manning, 1995). Persian Gulf, Red Sea, Mozambique, Comoros, Mayotte, Madagascar; Pakistan, Andaman Islands, Thailand, Vietnam, Indonesia, Australia, New Caledonia, Philippines, Japan, French Polynesia. Not listed from Hawaii in Ah Yong (2002a). Intertidal to 2 m.

REMARK – Fresh specimens (Figure 2B) have the characteristic red color on antennae, A2 scale, pereopods and uropods, as illustrated in Manning (1995, pl. 8). The white patch on the inside of the distal end of the merus of the claw is similar to that illustrated in Ah Yong *et al.* (2008: fig. 11).

***Gonodactylus platysoma* Wood-Mason, 1895** (Figure 3A)

Gonodactylus platysoma – Manning, 1968: 44, Anjouan, Mayotte (Mayotte, intertidal, coll. A. Crosnier, September 1959, 1 male TL 72.8 mm, MNHN; Anjouan, intertidal, coll. A. Crosnier, November 1961, 1 male TL 59.7 mm, MNHN).

PHOTOGRAPH, SPECIMEN NOT COLLECTED – Mayotte, photo T. Mulochau, 21 August 2018, scuba dive Islet Chissioua Bambo, 45°11.838'E, 12°55.985'S, 3 m (Figure 3A).

DISTRIBUTION – IWP, mainly on islands and atolls. Somalia, Comoros, Mayotte, Madagascar, Réunion, Mauritius, Maldives, Andaman, Thailand, Vietnam, Indonesia, Australia, New Caledonia, Philippines, Japan, Marshall Islands, French Polynesia. Not reported from Hawaii in Ah Yong (2002a). Intertidal, shallow subtidal.

REMARK – A diagnostic character for *G. platysoma* is the spot bounded with dark blue on the eight thoracic somite and fifth abdominal somite.

***Gonodactylus smithii* Pocock, 1893** (Figure 2C)

Gonodactylus smithii – Manning, 1968: 44, Anjouan, Mayotte (Mayotte, reef, coll. L.S. Kornicker, St. LK-39, *Anton Bruun* Cruise I, 24 November 1964, 1 male TL 38.9 mm, USNM; Anjouan, intertidal, coll. A. Crosnier, November 1961, 1 female TL 29.4 mm, USNM).

MATERIAL EXAMINED – Mission KUW November 2009, St. 26, 1 male TL 46.9 mm, 2 females TL 37.8, 55.0 mm, MNHN-IU-2013-7246.

REMARK – The specimens examined have the characteristic red patch on the inside of the distal end of the merus of the claw (Figure 2C), also illustrated in Manning (1995, pl. 12).

DISTRIBUTION – IWP. Somalia, Comoros, Mayotte, Madagascar, Réunion, Mauritius, South Africa, Persian Gulf, Pakistan, Thailand, Vietnam, Indonesia, Australia, New Caledonia, Philippines, Japan, Marshall. Reported in Society Islands (Gosliner *et al.*, 1996) but not in Hawaii (Ah Yong, 2002a). Intertidal to 80 m.



Figure 3. Two large stomatopods recognized during scuba dives at Mayotte. A) *Gonodactylus platysoma*, photo T. Mulochau, 21 August 2018, scuba dive Islet Chissioua Bambo, 45°11.838'E, 12°55.985'S, 3 m. B) *Odontodactylus scyllarus*, photo Claude Philippon, lagoon at night, 3–6 m.

Family Odontodactylidae Manning, 1980

***Odontodactylus scyllarus* (Linnaeus, 1758)** (Figure 3B)

PHOTOGRAPHS, SPECIMENS NOT COLLECTED – Mayotte, several in situ photographs. Mission KUW November 2009, St. 28, photo J. Dumas; Reef Boa Sadia, northwest, near islet Choizil, 3 September 2009, 20 m, photo M. Deuss; Mayotte lagoon several photos at night, C. Philippon (Figure 3B), M. Allaria, and B. Pineau.

DISTRIBUTION – IWP. Kenya, Tanzania, Mozambique, Seychelles, Mayotte (first record), Madagascar, Réunion, Mauritius, Thailand, Vietnam, Indonesia, Philippines, Japan, Australia,

New Caledonia, Papua New Guinea, Fiji, American Samoa. Not reported from French Polynesia and Hawaii. Low intertidal to 72 m.

REMARK – This species can be easily recognized in in-situ photographs. Anterolateral and sometimes posterolateral areas of carapace have large dark brown spots outlined in white (Figure 3B; Manning, 1995, pl. 13; Ah Yong *et al.*, 2008, fig. 22).

Family Protosquillidae Manning, 1980

Chorisquilla spinosissima (Pfeffer, 1888) (Figure 2D)

MATERIAL EXAMINED – Mission K UW November 2009. St. 14, 1 male TL 17.5 mm, MNHN-IU-2013-7259. St. 17, 1 male, TL 15.7 mm, MNHN-IU-2013-7251.

DISTRIBUTION – Mostly IO but exact range uncertain because confusion with *Chorisquilla hystrix* (Nobili, 1899). Red Sea, Somalia, Kenya, Mayotte (first record), Madagascar, Sri Lanka, South China Sea. According to Ah Yong (2001): ‘*C. hystrix* and *C. spinosissima* are so similar that they could prove to be eastern and western populations of a single widespread Indo-West Pacific species ... *Chorisquilla hystrix* appears to be primarily a Pacific species and *C. spinosissima* is primarily an Indian Ocean species’. Reef flat to 22 m (this work, Mayotte K UW 2009, St. 17).

REMARK – This species is affiliated to *Chorisquilla hystrix* (Nobili, 1899) formerly considered as a junior synonym. Ah Yong (2001) has compared the two species and provided key characters to separate them. The specimens examined from Mayotte have: a) AS5 with mid-dorsal surface smooth (bearing longitudinal carinae on posterior $\frac{1}{2}$ to $\frac{1}{3}$ in *C. hystrix*); b) AS4-5 smooth (with carinae/spines in *C. hystrix*); and c) body almost uniformly pigmented (see Figure 2D) (banded in *C. hystrix*). Ah Yong & Erdmann (2003) must be consulted for more comments on these two species and the description of a third related species, *Chorisquilla kroppi* Ah Yong & Erdmann, 2003, still known only from Guam.

Family Pseudosquillidae Manning, 1977

Pseudosquilla ciliata (Fabricius, 1787)

Pseudosquilla ciliata – Fourmanoir, 1955: 33, Comoros. – Manning, 1968: 42, Anjouan, Mayotte (Anjouan, in trevally stomach, coll. A. Crosnier, 1 female TL 63.8 mm, MNHN; Mayotte, 47 m, sand, coll. A. Crosnier, August 1959, 1 post larvae TL 17.9 mm, MNHN; Mayotte, 51 m, coarse sand, coll. A. Crosnier, 1 October 1959, 1 female TL 20.0 mm, MNHN).

MATERIAL EXAMINED – Mission K UW November 2009. St. 31, 3 females TL 19.0–20.0 mm, MNHN-IU-2013-7250.

DISTRIBUTION – Pantropical, but not Eastern Pacific. In the IWP, Persian Gulf, Red Sea, Somalia, Mozambique, Seychelles, Comoros, Mayotte, Madagascar, Réunion, Mauritius, Sri Lanka, Vietnam, Indonesia, Australia, New Caledonia, Papua New Guinea; Philippines, Hawaii, French Polynesia. Intertidal to 110m. Fourmanoir (1955) indicates that the species is probably more common in deep water ‘*Cette variété doit vivre en eau profonde, nous en avons trouvé deux exemplaires dans l'estomac de Blepharis sp. qui ne s'aventure pas dans la zone intercotidale*’. Mayotte specimens were collected by A. Crosnier at 47–51 m.

REMARK – Two of the 3 specimens examined from Mayotte have faint remains of lateral black patches on sixth thoracic sternite (TS6) and first abdominal tergite (AS1) and a dorso median

patch on TS7. This color pattern is also indicated by Fourmanoir (1955) for Comoros specimens '*Une tache noire de chaque côté du sixième segment thoracique (TS6) et du premier segment abdominal (AS1)*'. This form is the '*forme claire*' of Serène (1951) illustrated in Manning (1995, pl. 20). Manning (1995) has indicated that all specimens examined from Mayotte correspond to this '*forme claire*'.

***Pseudosquilla richeri* (Moosa, 1991)**

Pseudosquilla richeri – Ahyong *et al.*, 2000: 306, Comoros (poison station, 12°40'23"S, 045°04'28"E = North of Mayotte, in front of Mtsahara, 6–18 m, stn RW88-15, coll. R. Winterbottom, 15 Nov.1988, 1 male TL 39 mm, 3 females 16–41 mm, USNM 268582).

DISTRIBUTION – IWP, widely distributed, Red Sea, Mozambique channel, Comoros (Mayotte), Seychelles, Indonesia, Australia, Japan, Philippines, Papua New Guinea, Solomon, New Caledonia, Vanuatu, Fiji, Caroline, Kiribati, Marshall, Samoa, French Polynesia. Shore to 62 m (Ahyong *et al.*, 2000).

Superfamily Squilloidea Latreille, 1802

Family Squillidae Latreille, 1802

***Fallosquilla fallax* (Bouvier, 1914)**

Clorida fallax – Manning, 1968: 8, Mayotte (Lagoon, 1 male broken TL 5.6 mm, coll. A. Crosnier August 1959, USNM).

DISTRIBUTION – Red Sea, Mayotte, Mauritius, Vietnam, Indonesia, Australia, New Caledonia, Solomon Islands. Shallow water to 78 m (in Ahyong, 2001)

***Neoanchisquilla tuberculata* Ahyong, 1998**

Neoanchisquilla tuberculata Ahyong, 1998: 224, Anjouan (Holotype USNM 260879, male TL 74 mm, Comoros, 12°11'09"S 44°19'03"E, Anjouan Island, 9–20 m, RW88-26, coll. R. Winterbottom, 21 November 1988).

DISTRIBUTION – Only Comoro Islands and the Marquesas, 9–108 m (adults or subadults) to 800 m (larvae and postlarvae), in Ahyong (2002b), with this remark '*The remarkably discontinuous distribution likely reflects inadequate sampling effort in intermediate localities*'.

DISCUSSION

The richness of Mayotte stomatopod fauna is compared with other places in the IWP in Table 1. The figures presented appear biased by non-homogeneous sampling efforts and/or regional studies. The richness is greater for Australia (152 spp.) which has benefited from a major contribution by Ahyong (2001). Others places rather well studied are New Caledonia, Vietnam, and Taiwan with ca. 70–90 species. Sampling effort is still probably insufficient in other places of Table 1 although the low figures for Cocos Keeling, Christmas Islands (13 spp.) and Hawaii (20 spp.) reflect probably an impoverished fauna because of, respectively, a limited geographical area and geographical isolation in central Pacific.

In the case of Comoros and Mayotte it is likely that some of the 30 species reported from nearby Madagascar are also in Mayotte. These are for example the species collected on the '*Banc du Pracel*', situated approximately 500 km south of Mayotte between Madagascar and Juan de Nova Island, reported

by Manning (1968, 1978) with synonymy and corrections in Ahyong (2001): *Carinosquilla spinosa* Ahyong and Naiyanetr, 2002 (as *Squilla carinata* Serène, 1950 in Manning, 1968); *Cloridina chlorida* (Brooks, 1886); *Harpiosquilla melanoura* Manning, 1968; *Neclorida miersi* (Manning, 1968); *Quollastria subtilis* (Manning, 1978) (as *Squilla gonypetes* Kemp, 1911 in Manning, 1968). When this fauna is better studied in the vast lagoon of Mayotte Island, which is the largest in the Indian Ocean (1 100 km²), the biodiversity could be expected to reach to at least 30–40 species and probably much more.

Table 1. Stomatopod richness of species in several IWP localities

Place	Number of stomatopods	References
Cocos Keeling, Christmas Islands	13	Ahyong (2014)
Comoros and Mayotte	14	This study
Somalia	17	Cappola & Manning (1994)
Réunion	17	13 spp. in Poupin (2009), updated to 17 spp. from field observations in Legall & Poupin (2019)
Hawaii	20	Ahyong (2002a)
Madagascar	30	Manning (1968, 1970a, b, 1978)
French Polynesia	45	37 spp. in Ahyong (2002b), plus 7 spp. in Ahyong (2017), plus 1 sp. in Ahyong & Caldwell (2017)
Taiwan	66	63 spp. in Ahyong <i>et al.</i> (2008); plus 3 spp. in Wang & Chiou (2017).
Vietnam	72	Manning (1995)
New Caledonia	90	62 spp (0–100 m depth range) in Ahyong (2007) updated to 90 spp. in Legall & Poupin (2019)
Australia	152	Ahyong (2001); Ahyong (2008); Ahyong & Wassenberg (2015).

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